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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/585,250	07/05/2006	Noboru Ogasawara	292411US40PCT	6072

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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
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ALI, MOHAMMAD M

ART UNIT	PAPER NUMBER
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3744

NOTIFICATION DATE	DELIVERY MODE
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07/07/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/585,250	<b>Applicant(s)</b> OGASAWARA, NOBORU	
	<b>Examiner</b> MOHAMMAD M. ALI	<b>Art Unit</b> 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 6-8, 11-12, 15 and 17 are rejected under 35 U.S.C. 102 (b) as being anticipated by Masahiro ET al (JP 10-205920 A). Masahiro et al disclose a condenser (23) comprising an inlet header (26a) and an outlet header (26b) spaced apart from each other in a left-right direction and extending vertically, a plurality of fiat refrigerant tubes (27 arranged one above another in parallel at a spacing between the two headers (26a and 26b) and jointed at opposite ends thereof to the respective headers and fins provided between respective adjacent pairs of refrigerant tubes, the inlet header (26a) having a refrigerant inlet (35) for admitting a refrigerant into interior thereof therethrough, the outlet header (26b) having a refrigerant outlet (34) for causing the refrigerant to flow out therethrough, the refrigerant as admitted into the inlet header (26a) through the inlet (35) being flowable through all the refrigerant tubes (27) toward the outlet header (26b), the number of refrigerant tubes positioned below the center of the refrigerant inlet (35) with respect to the vertical direction being up to 21. (the tube number being up to 21, indicates the upper limit is 21 and there is no specific lower limit, the number of tube under inlet 35 of Masahiro et al does not exceed 21 similar th the claimed invention as supported by Figs of the Applicant); fins (28),

Art Unit: 3744

different tube groups as shown by the blocks with arrows; a liquid tank (25), filter dryer (20). See Figs 1, 4, 5 and 6 and enclosed translation..

Regarding claims 1 and 6, the above disclose of Masahiro et al meet the limitations of claims 1 and 6.

Regarding claims 2 and 7, Masahiro et al disclose that the number of refrigerant tubes positioned below the center of the refrigerant inlet (25) with respect to the vertical direction is 6 as shown in Fig 1 and which does not exceed the up to 7 number.

Regarding claims 3 and 8, Masahiro et al disclose that total number of refrigerant tubes are 31 as shown in Fig 6 which between the number 22 to 70.

Regarding claims 11 and 12, Masahiro et al disclose that a heat exchanger having a condenser (23) portion comprising supercooler portion (24) disposed under the condenser portion (23) and comprising a pair of headers (26a and 26b) spaced apart from each other in a left-right direction and extending vertically, a plurality of fiat refrigerant tubes (27) arranged one above another in parallel at a spacing between the two headers (26a and 26b) and jointed at opposite ends thereof to the respective headers and fins (28) provided between respective adjacent pairs of refrigerant tubes (27), the outlet header (26b) of the condenser portion (23) being provided with one of the headers of the supercooler portion (24) with a partition (see Fig 1) interposed therebetween, the inlet header of the condenser (23) portion being provided with the other header of the supercooler portion with a partition interposed therebetween, a receiver tank (25) being attached to both the outlet header of the condenser portion (23) and said one header of the supercooler portion

Art Unit: 3744

(24), the refrigerant as discharged from the refrigerant outlet of the condenser portion being flowable into said one

Regarding claims 15 and 17 Masahiro et al disclose an air conditioning or refrigeration system circuit. See Fig 5.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 4, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masahiro et al in view of Yamamoto et al (US 6,125,922), HU (US 20040261983 A1) and Kraft (US 20020070012 A1). Masahiro et al disclose the invention substantially as claimed as stated above condenser height, width/length, tube height/thickness and tube spacing (fin height). Yamamoto et al teach the use of a condenser height of 387.8 mm (within limit 150 to 500 mm of claimed invention), a left-right width/length of (300 to 700 mm, within the limit of 200 to 800 mm of claimed invention) in an condenser device for

Art Unit: 3744

the purpose of maximizing the design criteria and working efficiency, see Fig. 2, 4-5, column 3, lines 19-65 ; Kraft teaches the use of tube thickness of 1.33 mm (within the limit of 08 to 3 mm of claimed invention) in designing an heat exchanger for having an optimum efficiency, see Para [0006].; Hu teaches the use of fin height of 10 mm (the spacing of tubes 28 in designing a heat exchanger for maximizing its efficiency, see claim 2. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the condenser device of Masahiro et al in view of Yamamoto et al and Hu such that condenser with height of 387.8 mm, left-right width/lent of 150 to 500 mm, a tube thickness of 1.33 and tube spacing of 10 mm could be provided in order to efficiently functioning the condensing or heat exchanging function.

Claims 5, 10, 13, 14, 16, 18, 19, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masahiro et al in view of Iso et al (JP 2003-106338 A).

Masahiro et al disclose the invention substantially as claimed as stated above except 3 to 10 mss % of compressor lubricating oil admixed. Iso et al teach the use of compressor oil with .1 to 20 mass % with admixed of organometallic salt for having a an efficient rust proof oil. See Abstract. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the condenser device of Masahiro et al in view of Iso et al such that an lubrication /compressor oil with .1 to 20 mass % of organometallic salt could provided in order to efficient and rust proof working.

Art Unit: 3744

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MOHAMMAD M. ALI whose telephone number is (571)272-4806. The examiner can normally be reached on maxiflex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl J. Tyler can be reached on 571-272-4808. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mohammad M Ali/  
Primary Examiner, Art Unit 3744